

WHAT IS CLAIMED IS:

1. A method for eliciting a compound having therapeutic activity from a plant or plant part, comprising the steps of:
- a) contacting a living, intact plant or plant part with an effective amount of acetic acids; and
  - b) allowing the acetic acid to induce or improve the production of a compound from the plant or plant part.
2. The method of claim 1, wherein the plant or plant part is contacted with an acetic acid in a concentration of about 0.1% acetic acid.
3. The method of claim 1, wherein the aqueous medium is water.
4. The method of claim 1, further comprising recovering the compound from the plant or plant part.
5. The method of claim 4, wherein the recovery step comprises extracting or exuding the compound into an aqueous medium and collecting the compound from the aqueous medium.
6. The method of claim 5, wherein the extracting comprises macerating the plant or plant parts in an aqueous medium.
7. The method of claim 1, wherein the plant part is a plant root.
8. The method of claim 1, wherein the therapeutic activity is selected from the group consisting of anti-microbial activity and anti-cancer activity.
9. The method of claim 8 wherein the anti-microbial activity is selected from the group consisting of anti-bacterial activity and anti-fungal activity.

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10. The method of claim 1, further comprising providing a chemical library of compounds recovered from the aqueous medium in an amount sufficient to assay for biological activity.

11. The method of claim 1, wherein the step of extracting the compounds comprises removing cuticular material located on the surface of a leaf by contacting the leaf surface with a solvent.

12. The method of claim 11, wherein the media is a liquid medium or an agar medium.

13. The method of claim 11, wherein the cuticular material is selected from the group consisting of lipid, wax, cutin, protein, primary metabolite and secondary metabolite.

14. The method of claim 13, wherein the cuticular material is a wax.

15. The method of claim 11, wherein the solvent is an organic solvent.

16. The method of claim 15, wherein the organic solvent is selected from the group consisting of methylene chloride and chloroform.

17. The method of claim 11, further comprising assaying the solvent solution for therapeutic activity.

18. The method of claim 17, further comprising analyzing the solvent solution to identify an agent which has the therapeutic activity.

19. The method of claim 17, wherein the therapeutic activity is selected from the group consisting of anti-microbial activity and anti-cancer activity.

20. The method of claim 19, wherein the anti-microbial activity is selected from the group consisting of anti-bacterial activity and anti-cancer activity.

21. The method of claim 17, wherein the step of assaying the solvent solution comprises contacting the solution with a medium containing a living microorganism and determining the rate of growth of the microorganism, whereby an inhibition of the growth of the microorganism is indicative of an agent in the solvent solution having therapeutic activity.

22. The process of claim 1, wherein the plant or plant part is obtained from a plant of a species selected from the group consisting of *Atropa Belladonna*, *Erythrina flabelliformis*, *Ipomoea tricolor*, *Erythrina crista*, *Celosia cristata*, *Gallium spurium*, *Laurus nobilis*, *Vitis Labrusca*, *Gratiola Officinalis*, *Symphitum Officinalis*, *Hosta fortunei*, *Cassia hebecarpa*, *Thalictrum flavum*, *Scutellaria altissima*, *Portulacca oleracea*, *Portulacca oleracea*, *Scutellaria certicola*, *Physalis cretica*, *Geum Fauriei*, *Gentiana tibetica*, *Linum hirsutum*, *Aconitum napellus*, *Aconitum napellus*, *Podophyllum emodii*, *Thymus cretaceus*, *Hosta fortunei*, *Carlina acaulis*, *Chamaechnitis fasciculata*, *Pinus Pineae*, *Pegamum hamalis*, *Amarindus indica*, *Carica papaya*, *Cistus incanus*, *Capparis spinosa inermis*, *Cupressus lusitanica*, *Diopis kaka*, *Eryngium campestre*, *Aesculus woerlitzensis*, *Aesculus Hippocastanum*, *Cupressus sempervirens*, *Celtis occidentalis*, *Polygonum cuspidatum*, *Elaeagnus angustifolia*, *Elaeagnus commutata*, *Gentiana macrophylla*, *Brassica rapa*, *Sesbania exaltata*, *Sesbania speciosa*, *Spartina potentiflora*, *Brassica juncea*, *Helianthus annuus*, *Poinsettia sp.*, *Pelargonium zonale*, *Leontopodium alpinum*, *Lupinus luteus*, *Buxus microphylla*, *Liatris spicata*, *Primula japonica*, *Betula nigra*, *Filipendula vulgaris*, *Lobelia siphilitica*, *Grevillea robusta*, *Reseda luteola*, *Gentiana Littoralis*, *Campanula carpatia*, *Aesculus hippocastanum*, *Aesculus woerlitzensis*, *Ageratum conyzoides*, *Psidium guajava*, *Ailanthus altissima*, *Buxus microphylla "japonica"*, *Hydrocotyle asiatica*, *Grevillea robusta*, *Brugmansia suaveolens*, *Thymus pulegioides*, *Thymus lema-barona*, *Thymus serpyllum (wild)*, *Gaultheria procumbens*, *Thymus serpyllum*, *Thymus carnosus*, *Thymus thracicus*, *Calycanthus floridus*, *Zingiber officinalis*, *Lamium dulcis*, "argenteus", *Thymus praecox "arcticus"*, *Thymus pulegioides "lemons"*, *Thymus speciosa*, *Thymus carnosus*, *Thymus*

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pseudolamginosus, Thymus vulgaris "oregano", Ficus religiosa, Forsythia suspensa, Chelidonium majus, Thymus wooly, Thymus portugalense, Nicotiana tabacum, Thymus cytridorus "aureus", Cactus officinailis, Lal lab purpurea, Juglans regia, Actinidia chinensis, Hemerocallis, Betula pendula, Gardenia jasminoides, Taxodium distichum, Magnolia loebherii, Crataegus praegophyrum, Larix decidua, Thuja occidentalis, Thuja orientalis, Cupressocyparis leylandii, Pseudotsuga menziesii, Abies firma, Parthenocissus quinquefolia, Allium cernum (wild), Juniperus blue "pacific" taraxacum officinalis, Yucca sp., Ilex aquifolium, Tsuga canadensis "penola", Ilex aquifolium, Tsuga canadensis "penola", Ilex cornuta, Taxus hicksii, Taxus media, Metasequoia glyptostroboides, Pinus bungeana, Buxus sempervirens, Stewartia koreana, Prunus Sp., Betula dahurica, Plantago minor, Acer palmatum "burgundy", Acer campestre, Cotynus coggygia, Quercus robur "fastigiata", Acer truncatum, Achyranthes bidentata, Allium japonicum, Carum capsicum, Agastache mexicana, Prunella vulgaris, Tagetes minuta, Prunella vulgaris, Nepeta cataria, Ratibida columnifera, Aster-Nova anglicae, Myrica cerifera, Pittosporum tobira, Taxodium distichum (H2O), Taxodium distichum (Acetic acid), Plantago major, Pinus sylvestris, Acorus canadensis, Pieris Japonica, Pinus strobus, Trifolium pratense, Prunus serotica, Datura stramonium, Geranium maculata, Hydrocotyle asiatica, Taxodium distichum, Astragalus sinicus, Centaurea maculata, Ruschia indurata, Myrthus communis, Platanus occidentalis, Licium barbatum, Lavandula officinalis, Grevillea robusta, Hippophaë rhamnoides, Filipendula ulmaria, Betula pendula, Polygonum odoratum, Brugmansia graveolens, Rhus toxicodonta, Armoracia rusticana, Ficus benjaminii, Sluffera sp, Pelagonium zonale, Allium sp, Asimina triloba, Lippa dulcis, Epilobium augustifolium, Brugmansia suaveolens (old), Brugmansia suaveolens (young), Xanthosoma sagittifolium. (leaf); Xanthosoma sagittifolium (stem), Monstera deliciosa., Aglaonema commutatus, Dieffenbachia leopoldii, Anthurium andreanum, Syngonium podophyllum, Dracaena fragrans, Ananas comosus, Strelitzia reginae, Diffenbachia segiunae, Syngonium aurutum, Dracaena sq. haemanthus katharina, Anthurium altersianum, Spathiphyllum grandiflorum, Spathiphyllum cochlearispatum, Monstera, pertusa, Anthurium magnificum, Anthurium hookeri, Anthurium elegans, Calathea zebrina, Yucca elephantipes, Bromelia balansae, Musa textiles, Myrthus communis, Olea olcaster, Olea europaea, Verium oleander, Cocculus laurifolius, Microsorium punctatum, Ficus sp., Senseviera sp., Adansonia digitata, Boechimeria boloba, Piper nigrum,

Phymatosorus scolopendria, Turnera ulmifolia, Nicodemia diversifolia, Tapeinochilos  
 spectabilis, Rauwolfia tetraphylla, Ficus elastica, Cycas cirinalis, Caryota ureus,  
 Cynnamonum zeylonicum, Aechmea luddemoniana, Foenix zeulonica, Ficus benjamina,  
 Ficus pumila, Murraya exotica, Trevesia sungaica, Clerodendrum speciosissimum, Actinidi  
 colonicta, Paeonia lactiflora, Paeonia suffructicosa, Quercus imbricaria, Iris alida, Portulacca  
 olleracea, Polygonum aviculare, Iris pseudocarpus, Allium nutans, Allium fistulosum,  
 Antericum ramosum, Veratrum nigrum, Polygonum latifolia, Hosta lancefolia, Hosta zibalda,  
 Echinops spheae, Paeonia dahurica, Inula hilenium, Trambe pontica, Digitalis lutea, Bactisia  
 australis, Austolachia australis, Hissopus zeraucharicus, Feucium ham. edris., Sedum album,  
 Heraclelum pubescens, Origanum vulgare, Cachris alpina, Haser trilobum, Matteuccia.  
 struthiopteris, Sedum telchium, Bocconia cordata, Ajuga reptans, Thalictrum minus,  
 Anemona japonica, Clematis rectae, Thalictrum sp., Alchemilla sp., Potentilla alba, Poterium  
 sangiusorba, Menispermum dauricum, Oxybaphus nyctagineus. Armoracea rusticana,  
 Crambe cordifolia. A rimonia eupatora, Anchusa officinalis, Poly monium ceruleum,  
 Valeriana officinalis, Pulmonaria molissima, Stachys lanata, Coronilla varia, Platycarya  
 grandiflora, Lavandula officinalis, Vincetoxicum officinale, Acalypha hispida, Gnetum  
 gnemon, Psychotria nigropunctata, Psychotria metbacteriodomasica, Codiaeum variegatum,  
 Phyllanthus grandifolius, Pterigota alata, Pachyxa affinis, Sterculia elata, Philodendron  
 speciosum, Pithecellobium unguis-cati, Sanchezia nobilis, Oreopanax capitatus, Ficus  
 triangularis, Kigelia pinnata, Piper cubeba, Laurus nobilis, Erythrina caffra, Metrosideros  
 excelsa, Osmanthus fragrans, Cupressus sempervirens, Jacobinia sp., Senecio  
 platyphylloides, Livistona chinensis, Tetraclinis articulata, Eucalyptus rudis, Podocarpus  
 spinulosus, Eriobotrya japonica, Ginkgo biloba, Rhododendron, Thuja occidentalis,  
 Fagopyrum suffruticosum, Geum macrophyllum, Magnolia kobus, Vinca minor, Convallaria  
 majalis, Corylus avellana, Berberis sp., Rosa multiflora, Ostrya carpinifolia, Ostrya  
 connogea, Quercus rubra, Liriodendron tulipifera, Sorbus aucuparia, Betula nigra (leaf),  
 Betula nigra (flower), Castanea sativa, Bergenia crassifolia, Artemisia dracunculus, Ruta  
 graveolens, Quercus nigra, Schisandra chinensis, Betula alba, Sambucus nigra, Gentiana  
 cruciata, Encephalartos horridus, Phlebodium aureum, Microlepidia platyphylla, Ceratozamia  
 mexicana, Stenochlaena tenuifolia, Adiantum trapeziforme, Adiantum raddianum, Lygodium  
 japonicum, Pessopteris crassifolia, Asplenium australasicum, Agathis robusta, Osmunda

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regalis, *Osmundastrum claytonianum*, *Phyllitis scolopendrium*, *Polystichum braunii*,  
*Cyrtomium fortunei*, *Dryopteris filix-mas*, *Equisetum variegatum*, *Athyrium nipponicum*,  
*Athyrium filix-femina*, *Parthenocissus tricuspidata*, *Ligusticum vulgare*, *Chamaecyparis*  
*pisifera*, *Rosa canina*, *Cotinus coggygria*, *Pinus strobus*, *Celtis occidentalis*, *Picea*  
*schrenkiana*, *Cydonia oblonga*, *Ulmus pumila*, *Euonymus verrucosus*, *Deutzia scabra*,  
*Mespilus germanica*, *Quercus castaneifolia*, *Euonymus europea*, *Securinega suffruticosa*,  
*Koelreuteria paniculata*, *Syringa josikaea*, *Zelkova carpinifolia*, *Abies cephalonica*, *Taxus*  
*baccata*, *Taxus cuspidata*, *Salix babylonica*, *Thuja occidentalis*, *Actinidia colomicta*, *Mahonia*  
*aquifolium*, *Aralia mandschurica*, *Juglans nigra*, *Euonymus elata*, *Prinsepia sinensis*,  
*Forsythia europaea*, *Sorbo cotoneaster pozdnjakovii*, *Morus alba*, *Crataegus macrophyllum*,  
*Eucommia ulmifolia*, *Sorbus commixta*, *Philodendron amurense*, *Cornus mas*, *Kerria*  
*japonica*, *Parrotia persica*, *Jasminum fruticans*, *Swida sanguinea*, *Pentaphylloides fruticosa*,  
*Sibiraea altaiensis*, *Cerasus japonica*, *Kolkwitzia amabilis*, *Amigdalus nana*, *Acer*  
*mandschurica*, *Salix tamarisifolia*, *Amelanchier spicata*, *Cerasus mahaleb*, *Prunus cerasifera*,  
*Corylus avellana*, *Acer tataricum*, *Viburnum opulus*, *Syringa vulgaris*, *Fraxinus exelsior*,  
*Quercus trojana*, *Chaenomelis superba*, *Pinus salinifolia*, *Berberis vulgaris*, *Cotoneaster*  
*horizontalis*, *Cotoneaster fangianus*, *Fagus sylvatica*, *Pinus pumila*, *Pinus sylvestris* and  
*Berberis thunbergii*.

23. A method of preparing a composition having therapeutic activity, comprising the steps of:

- (a) contacting a living intact plant or plant part with an effective amount of acetic acid;
- (b) allowing the acetic acid to induce a compound or component having therapeutic activity from the plant or plant part; and
- (c) collecting a composition comprising the compound or component.

24. The method of claim 23, wherein the composition is collected by macerating the plant or plant parts in an aqueous medium.

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25. The method of claim 23, wherein the composition is collected by contacting a surface of the plant or plant parts with a solvent suitable for removing cuticular or epicuticular material.

26. The method of claim 23, wherein the amount of acetic acid is about 0.1% acetic acid.